NIH Blueprint

for Neuroscience Research

Working Together to Reduce the Burden of Nervous System Disorders

December 2005

Impact of Diseases of the Nervous System

- Account for 6 of the top 10 causes of death*
- Affect 1 in 3 Americans
- Exact an economic cost of over $500 billion per year**
- Have a major impact on:
  - academic performance
  - workplace productivity
  - social functioning
  - quality of life

*Sources: *CDC; **SfN Fact Page*

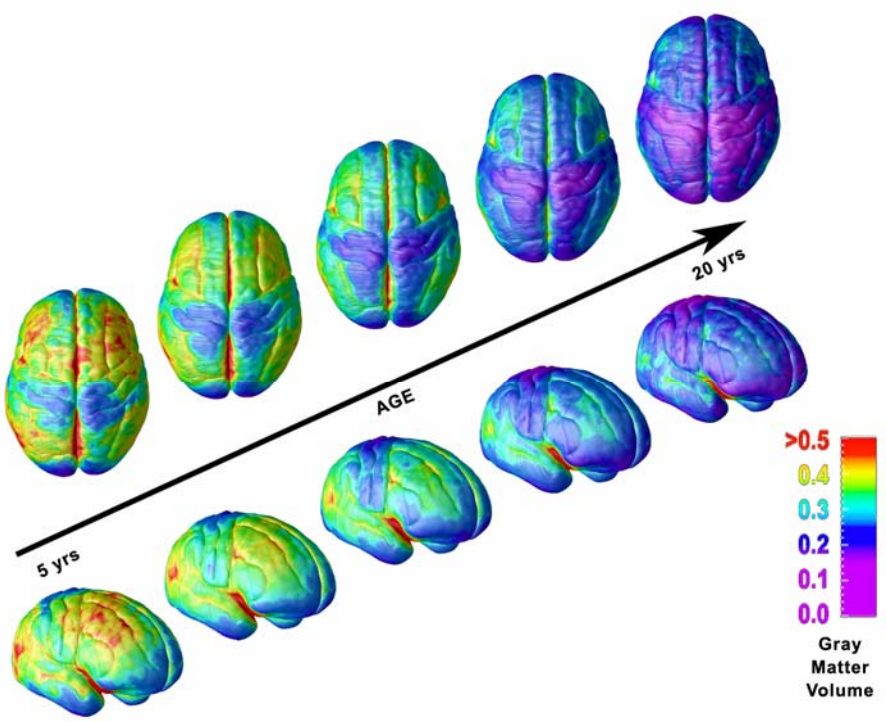
Neurodegeneration: progressive death of nerve cells

- Parkinson's disease
- Alzheimer's disease
- Vision disorders
- Hearing disorders
- Substance abuse
- Mental disorders?
- Chronic pain?

Human retinal degeneration

Development Throughout the Lifespan

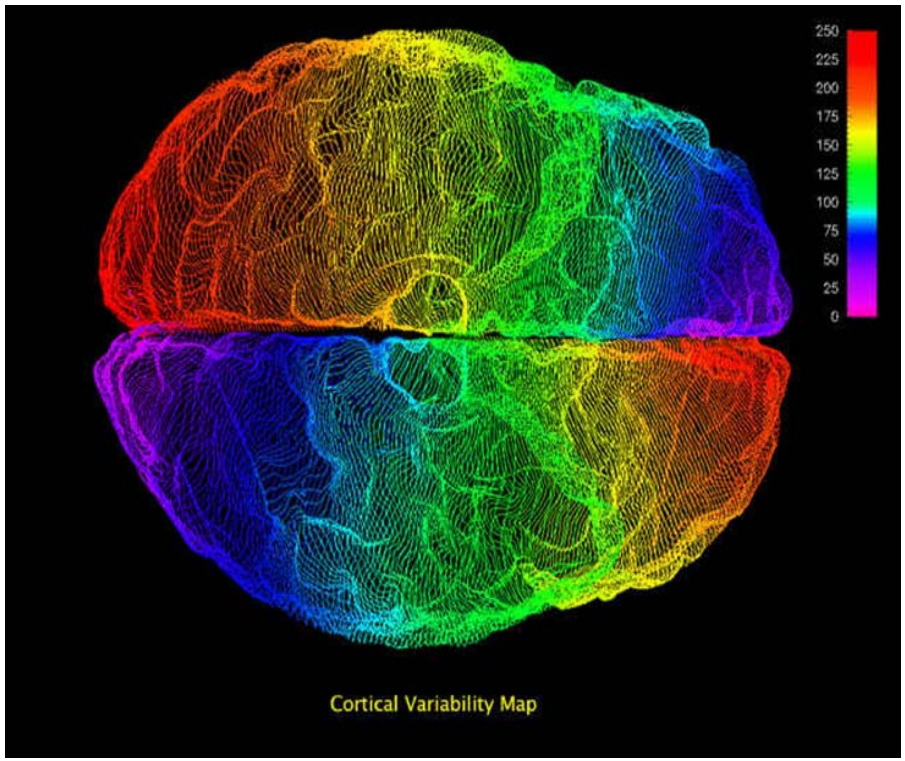
- Developmental disorders
- Age-dependent responses to insults, therapies
- Reactivating developmental programs to treat injuries



Normal Brain Development, Age 5- 20

Plasticity: the capacity to adapt and remodel

- Therapeutic role
- Maladaptive role
  - Dystonia
  - Epilepsy
  - Chronic pain
  - Addiction
  - Depression



3D Visual Cortical Map

Neuroscience Blueprint History

- NIH Director initiates Neuroscience Blueprint - Feb 04
- Inventory of major NIH neuroscience efforts
- Meetings of, and recommendations from, consultants to individual ICs
- Neuroscience Blueprint Consultants meeting -Aug 04
- Outreach to Societies and Advocates
- Public launch of Neuroscience Blueprint at the Society for Neuroscience Meeting - Oct 04
- Strategies, agreements, & organizational structure established
- FY05 and FY 06 initiatives launched
- FY07 initiative planning

Participating Institutes and Centers

NCCAM	NIDCD
NCRR	NICHD
NEI	NIDCR
NIA	NIGMS
NIAAA	NIMH
NIBIB	NINDS
NIDA	NINR
NIEHS	OBSSR

Course Development in the Neurobiology of Disease

Development of graduate courses that

- Span the breadth of nervous system disorders
- Emphasize links and common mechanisms
- Address pathology and basic underlying science
- Increase crosstalk between clinical/basic investigators and departments
- Materials have to be shared

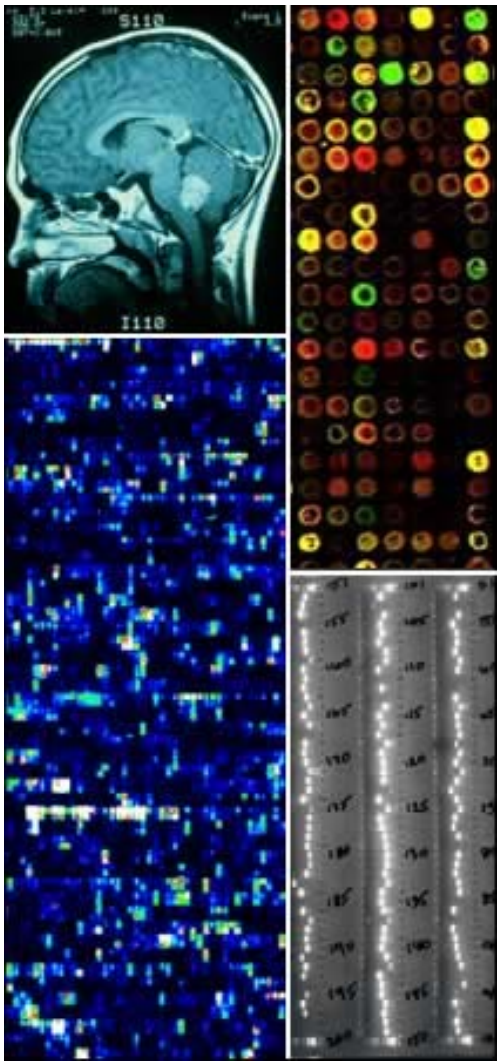
Neuroscience Information Framework

A publicly accessible inventory of neuroscience resources that is

- Global in perspective
- Web-based
- Searchable

Neuroscience Microarray Consortium

- Expansion of NINDS/NIMH program
- All neuroscience NIH grantees have access
- Offers gene expression and SNP genotyping services
- Data is made publicly available on web



FY 2006: Interdisciplinary Center Cores

- To encourage interactions and collaboration among neuroscientists in different departments, disciplines, institutions
- Provides resources and facilities
- Must serve at least 15 Blueprint IC neuroscience projects, with funding from at least 4 Blueprint ICs
- $1.5 million per year x 5 years

FY 2006: Neuroscience Training Programs

- Neurobiology of Disease: Translational Neuroscience
- Computational Neuroscience
- Neuroimaging: Physics to Physiology

FY 2006: Toolbox for Assessment of Neurological & Behavioral Function

- To establish uniform measures of cognitive, sensory, and motor functions
- Will enable comparisons, data compilation across studies
- For longitudinal epidemiologic, prevention, and intervention trials

The Blueprint: The future

Initiatives by theme

- FY 2007: neurodegeneration
- FY 2008: development
- FY 2009: plasticity

Coordinating functions that may not require $

- Sharing best practices
- Developing common policies
- Umbrella for many activities

For More Information

Visit the Neuroscience Blueprint Website at:

http://www.neuroscienceblueprint.nih.gov/

Share your thoughts and ideas via e-mail:

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